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THE PRONUNCIATION OF THE BEMBA LANGUAGE

*Being some deductions resulting from phonetic research with the aid of
the kymograph and palatography.*

By Rev. B. H. BARNES, C.R., and C. M. DOKE, M.A., D.Litt.

INTRODUCTORY

The following brief investigation into the pronunciation of the Bemba Language (*tʃivemba*) is the result of laboratory work carried out in the Department of Phonetics, University of the Witwatersrand, Johannesburg, during February, 1927. The subject upon whom the investigations were carried out was a young Bemba of twenty years, of the name of Christopher Usama, of Kalundi, near Mpolokoso, N.E. Rhodesia. Christopher's pronunciation was clear, and his speech normal, we consider, for Bemba. Two further Bemba natives resident at Alexandra Township, Johannesburg, were used for checking purposes, and confirmed the conclusions we arrived at with reference to Christopher's pronunciation. These were Stephen Chanda, about 28 years of age, who had been resident in Johannesburg for two years, and Elisabeti Kafula, about 30 years of age, who had also been in Johannesburg for the same length of time.

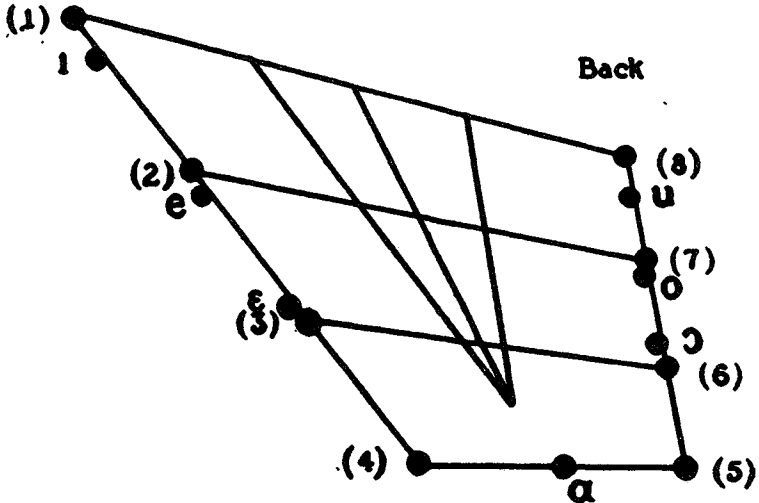
The Bemba people (*avavemba*) constitute an important tribe in North-eastern Rhodesia, inhabiting a large territory bounded on the north by Lake Tanganyika, on the south by the Bangweolo, on the east by the Chambezi River, and on the west by the Luapula River and Lake Mweru. They belong to the Central Bantu peoples, having much in common linguistically with the Lubas, the Lambas, and other Central Bantu tribes.

We have dealt herein merely with the normal grammatical phonetics of Bemba, and have made no attempt to analyse any of the extra-normal phonetic phenomena which appear to such a great extent in the interjections and onomatopœic radical descriptives, which abound in all Bantu languages.

THE ORAL VOWELS

§ 2. CHART OF BEMBA ORAL VOWELS

Front



All Bemba vowels are oral; that is, during their enunciation the whole volume of air passes through the mouth, the velum being raised to close the passage through the nose. Bemba uses no lax vowels, all are pronounced with tenseness of the vocal organs, and hence appear on the outside lines in the chart above. Bemba vowels correspond very closely to those of Lamba, the system being a seven-fold one, with three basic vowels, *i*, *u* and *a*, and four intermediate vowels, two forward (*e* and *ɛ*) and two back (*o* and *ɔ*).

§ 3. THE HIGH FORWARD VOWEL

Though considerably lower in tongue-position than for Cardinal No. 1, this vowel is higher than in Southern English pronunciation. It must be noticed that in Bemba there is no change in tongue-position when there is an alteration in quantity. *i* occurs both long and short in Bemba. Examples :

ukwi:ʔiʔi:ʔa (to go away for good)

ʔɪʔ/ʔkɪʔɪ (make a fire for me)

ukufita fititɪ (to be intensely black)

ʔʔi:ta (an offering)

§ 4. THE HIGH BACK VOWEL

In tongue-position slightly above mid-way between Cardinals Nos. 7 and 8. There is no excessive rounding with this vowel in Bemba. It is a pure vowel occurring both long and short, without any alteration in tongue-position. Example :

umulu:mbɿ (story)
injulu (nature spirit)
itʃiku:kɿ (kindness)
itʃikukɿ (bark box)

§ 5. THE LOW VOWEL

Tongue-position about mid-way between Cardinals Nos. 4 and 5. Pronunciation closely akin to that of Standard Southern English *a* in *father*. When short there is no alteration in tongue-position or tenseness, and foreigners are warned against pronouncing final *a* as the neutral vowel. Examples :

ama:kɑ (strength)
ta:tɑ (my father)
ukutɑpɑ (to draw water)

§ 6. THE MID-FORWARD AND MID-BACK VOWELS

In Bemba there are two exemplifications of each of these, a half open and a half-close.

(i) *The half-close forward vowel.*—In the pronunciation of this, the lips are but slightly spread, and the tongue-position is a little lower than for Cardinal No. 2. The Bemba vowel is practically the same as the first element in the Southern English diphthong *ei* (as in *bay*) The Bemba vowel is pure and care must be taken not to diphthongize. Both long and short varieties occur without alteration of tongue-position or tensity.

(ii) *The half-open forward vowel.*—Tongue-position slightly, if anything, above Cardinal No. 3, and certainly higher than for the pronunciation of the first element of the Southern English diphthong in the word *fair*. Here again Bemba uses a pure vowel and any diphthongization must be carefully avoided. Both long and short varieties occur. Examples of *e* and *ɛ* :

<i>tʃɛ:pɔʒɛ:lɑ</i> (take care)	<i>ɪnɛnsɛ</i> (cricket)
<i>lɛ:lɑ</i> (wither)	<i>lɛlɑ</i> (nurse)
<i>pɛpɑ</i> (pray)	<i>pɛ:pɑ</i> (smoke)
<i>lɛ:tɑ</i> (bring)	<i>pɛ:dʒɛ</i> (let me go)

(iii) *The half-close back vowel*.—Lips fairly rounded, tongue-position somewhat lower than for Cardinal No. 7, and much as for the first element of the Southern English diphthong *ou* (as in *no*). The Bemba vowel is pure and must not be diphthongized. It occurs both long and short without any change in tongue-position.

(iv) *The half-open back vowel*.—Lips not excessively rounded, tongue-position slightly above that for Cardinal No. 6 and very considerably higher than for its corresponding sound in Southern English, viz., the first element of the diphthong *oi* as in *boy*). It occurs both long and short without any change in tongue-position. Examples of *o* and *ɔ* :

<i>lo:ŋga</i> (brew)	<i>no:mba</i> (but)
<i>lo:ta</i> (dream)	<i>umwina:ŋgɔ</i> (member of the
<i>po:kolola</i> (take away)	leopard clan)
<i>ɔkɔ</i> (receive)	<i>ukuɔ:vola</i> (to rebuke)
<i>ɔta</i> (twist)	

It is practically certain that the occurrence of these varieties of mid-forward and mid-back vowels are regulated by definite rules, dependent upon length, stress and surrounding vowel or consonant influence. In the time at our disposal, it has not been possible to pursue this line of enquiry.¹

§ 7

Except for the existence of certain falling diphthongs, the first element of which is represented in this analysis by *j* or *w*, diphthongs do not occur in Bemba. Vowels occur in juxtaposition, and must be pronounced separately, two pulsations being necessary in their enunciation. Examples :

(a) Different vowels—

<i>te:ne</i> (it is not I)	<i>umweɔ</i> (life)
<i>umwastɛ</i> (a youngster)	<i>ɔnay:lɔ</i> (destroy)
<i>akawundɔ</i> (small jigger)	<i>ilupa:ɔ</i> (offering)
<i>naitende:kɔ</i> (I have begun it)	

(b) Like vowels—

<i>utuwundɔ</i> (small jiggers)	<i>valee:vɔ</i> (they were saying)
<i>imbɔɔ</i> (buffalo)	<i>ndangala</i> (I play)
<i>i:ŋgɔ</i> (many)	

¹ For the nature of such rules in Lamba and Zulu, see Doke, *A Study in Lamba Phonetics*, § 8 (Bantu Studies, Vol. III., No. 1), and Doke, *The Phonetics of the Zulu Language*, Chapter II., § 6 (University of the Witwatersrand Press, 1926).

With certain speakers a semi-vowel, *j* or *w*, is interposed between the juxtaposed vowels, but even when this is done, its pronunciation is so slight that it may be considered merely as the normal glide between vowel and vowel.

It must be emphasised that in the correct pronunciation of Bemba, care must be taken to differentiate between :—

- (a) Short vowel (one short pulsation)
- (b) Long vowel (one long pulsation)
- (c) Double vowel (two pulsations)

The double vowels naturally constitute two syllables each.

§ 8. CHART OF EMITTED CONSONANTS

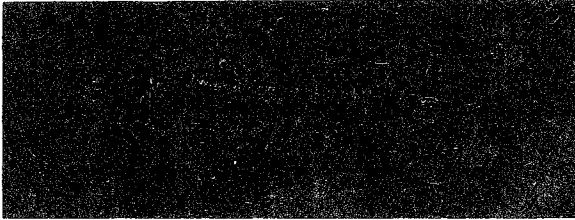
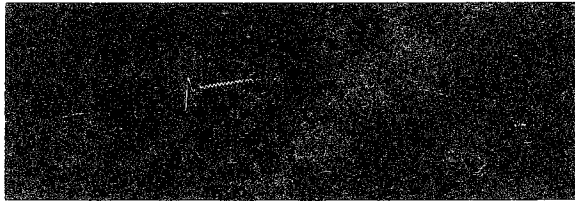
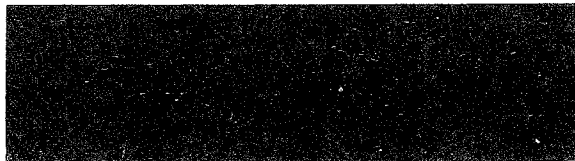
	Bilabial	Denti-Labial	Alveolar	Pre-Palatal	Velar
Explosive :					
Unvoiced ...	<i>p</i>		<i>t</i>		<i>k</i>
Voiced ...	(<i>m</i>) <i>b</i>		(<i>n</i>) <i>d</i>		(<i>ŋ</i>) <i>g</i>
Nasal :					
Voiced ...	<i>m</i>	<i>ɱ</i>	<i>n</i>	<i>ɲ</i>	<i>ŋ</i>
Syllabic ...	<u><i>m</i></u>	<u><i>ɱ</i></u>	<u><i>n</i></u>	<u><i>ɲ</i></u>	<u><i>ŋ</i></u>
Fricative :					
Radical ...		<i>f</i>	<i>s</i>	<i>ʃ</i>	
Voiced ...		<i>v</i>			
Affricate :					
Radical ...				<i>tʃ</i>	
Voiced ...				<i>dʒ</i>	
Lateral ...	<i>v.</i>		<i>l</i>		
Flapped Lateral <i>v.</i>			<i>ɫ</i>		
Semi-vowel <i>v.</i>				<i>j</i>	<i>w</i>

§ 9

The consonantal system of Bemba is comparatively simple. All the consonants are emitted, there are no explosives, clicks or reversed sounds. The full range of nasals, used homorganically, is typically Bantu. Though it will be noticed that slight aspiration of the unvoiced explosives occurs at times, this is in no way a significant feature, and even in a fairly close transcription need not be marked. The paucity of voiced fricatives is a feature shared with Lamba, but the use of prepalatal affricates instead of palatal explosives differentiates Bemba sharply from Lamba. The buffer Aushi tribe shares the Lamba forms; in fact, Aushi seems closely akin to Lamba in grammar and phonetics, while nearer to Bemba in vocabulary.

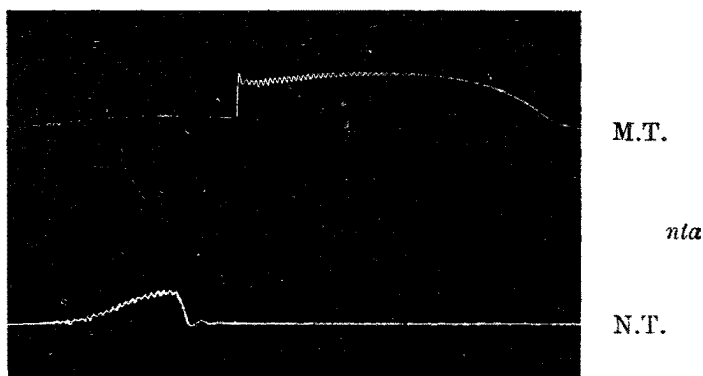
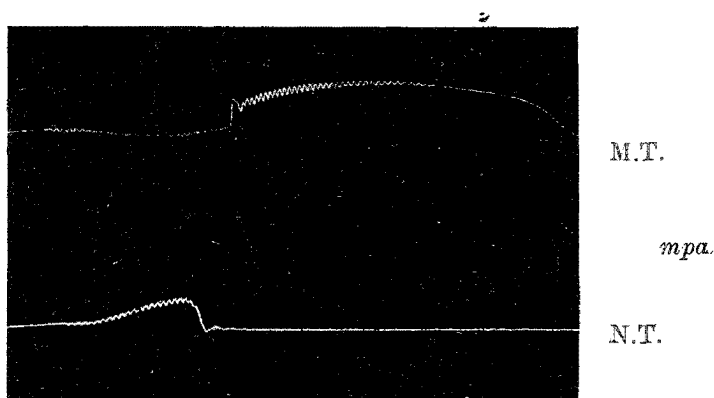
As with many Central Bantu languages, the voiced explosives in Bemba do not occur apart from their homorganic nasals. Bemba shares with Lamba the complete absence of glottal consonants.

§ 10. THE UNVOICED EXPLOSIVES

*tʰe**tu**kʰa*

The above kymograph tracings¹ are typical of a number taken in conjunction with various vowels, with the consonants both initial and medial. It is at once seen that, in Bemba, *p* is considerably aspirated, *t* not aspirated at all, and *k* slightly aspirated.

When preceded by the homorganic nasal, the stop of the unvoiced explosive becomes slightly voiced. This is due to a slight extent to a nasalization of the stop, which makes it difficult to distinguish these tracings from the corresponding ones for the voiced explosives preceded by homorganic nasal. The effect of the voicing of the stop is seen at once by the eradication of all aspiration in the explosive. so that *p^h* becomes *mp*. The following simultaneous mouth- and nose-tracings illustrate the above-mentioned points :—



§ 11. THE VOICED EXPLOSIVES

In Bemba, *b*, *d* and *g* do not occur, apart from the homorganic nasals forming the combinations *mb*, *nd* and *ng*. It is impossible, then, to examine these voiced explosives isolated, in order to determine whether their stops are voiced or not. A reference to the kymograph tracing of *mb*, given in § 23, shows that the voicing in the stop is quite marked; but the simultaneous nose-tracing reveals the fact that some, at least, of this voicing is due to nasalization.

§ 12. THE BILABIAL EXPLOSIVES

The unvoiced form is pronounced much as in normal English, with a certain amount of aspiration, very little more than in English. This aspiration, which is lost when the consonant is preceded by *m*, is not significant, and *p* is a sufficient symbol to indicate the sound.

Example :

umupungga (rice)

palana (resemble)

pe: nape: (always)

ukupju:ngga (to work)

pwit/s/s/ga (finish completely)

In Bemba the voiced form *b* normally occurs in conjunction with the homorganic nasal *m*, though it has been found initially under circumstances described in § 23. Examples :

ukwamba (to be wet)

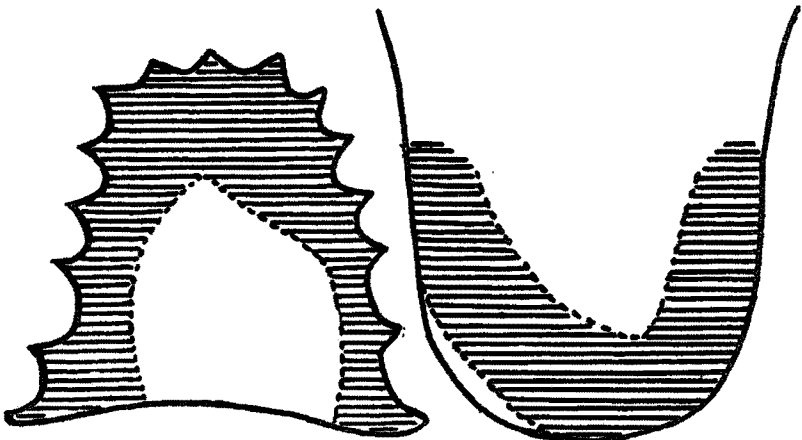
mbasɔ (adze)

ku:mbɔ (elsewhere)

imbuʃɔ (goat)

§ 13. THE ALVEOLAR EXPLOSIVES

The *t* and *d* in Bemba are truly alveolar consonants, formed with tongue-tip and sides against the alveolus and upper side teeth. The



front of the tongue reaches the bases of the upper front teeth and, in this, the sound closely resembles the Southern English *t*. In the one case investigated, the tongue was placed rather more to the left side of the mouth than to the right.

The unvoiced form is devoid of all aspiration, whether used initially or when preceded by the homorganic nasal *n*. Examples of *t* :

<i>tʃʊtʊlɔ</i> (shrewish woman)	<i>tapɔ</i> (draw water)
<i>tɛnɛ</i> (is it not I)	<i>tɛ:tʃ</i> (it is not that)
<i>tumpɔ</i> (be foolish)	<i>twikɔ</i> (load another)
<i>tanta</i> (cut up meat)	

Examples of *nd* :

<i>ukufi:nda</i> (to skin)	<i>indoʃ</i> (wizard)
<i>ndɛ:tʃitɔ</i> (I act)	<i>tʃikundjɛ</i> (white-backed duiker)
<i>n:dwe</i> (let me fight)	

§ 14. THE VELAR EXPLOSIVES

Pronounced as in English, with the back of the tongue raised to touch the soft palate. The unvoiced form is slightly aspirated as the English equivalent. The homorganic nasal *ŋ*, placed before the unvoiced form, has the effect of eliminating all aspiration.

Examples :

<i>ukuku:lɔ</i> (to build)	<i>kɛ:pɪka</i> (cook)
<i>ukwɪsɪlɔ</i> (to be full)	<i>inkafɪ</i> (sister)
<i>ukukɔ:lɔ</i> (to cough)	

The voiced form, *g*, is never used in Bemba apart from the homorganic nasal *ŋ*. The combination *ŋg* must be carefully distinguished from the simple velar nasal *ŋ*, which may also be used directly before vowels. Examples of *ŋg* :

<i>fuŋgɪlɔ</i> (tie up)	<i>iŋguluwɛ</i> (river hog)
<i>ɪmpɔŋgɔ</i> (veldt)	<i>va:ŋguɪʃɔ</i> (they knocked me down)
<i>ingo:fɛ</i> (spec. of snake)	

§ 15. THE NASALS IN BEMBA

Used homorganically, there are nasals in Bemba representative of each of the five organic positions for speech sounds, viz., bilabial, denti-labial, alveolar, prepalatal and velar ; of these, four (viz. *m*, *n*, *ɲ* and *ŋ*) are also used as consonants in their own standing before vowels. Further, each of the five homorganic nasals may be used syllabically under special and restricted circumstances.

§ 16. THE BILABIAL NASAL

Pronounced as in English, and used—

(a) Before vowels, e.g.:

ame:nfĩ (water) *umuviPĩ* (body)
amɔ:ŋgɑ (quantity of meal)

(b) Before the semi-vowels, *j* and *w*, e.g.:

mjan̄ga (lick) *umwɔpĩ* (short person)
im̄jɛŋgɛPɛ (spec. of tree) *i:mwɛ* (you, pl.)

(c) Homorganically before *p* and *b*, e.g.:

impepp (cold) *impumĩ* (forehead)
uwamba (nakedness) *imbɔnĩ* (pupil of eye)

§ 17. THE DENTI-LABIAL NASAL

This nasal is only used homorganically, in conjunction with *f*. It is pronounced with contact between the upper front teeth and the lower lip, as is necessary for the pronunciation of *f*. In a broad transcription, *mf* would do instead of *ɱf*, as the bilabial *m* never occurs in Bemba before *f*. In some other Bantu languages, notably Zulu, a syllabic bilabial nasal is found before *f*, as well as the denti-labial non-syllabic nasal. Examples :

vamfwaja (they look for me) *im̄fifĩ* (darkness)
im̄fulɑ (rain) *ukutɔm̄fjɑ* (to make fun of)

§ 18. THE ALVEOLAR NASAL

The palatograph record of Bemba *n* shows a tongue-position practically identical with that of *t*, the only difference discoverable being in the degree of tensivity—there being more tensivity in the case of the explosive, as is only to be expected, on account of the greater compression needed. Examples :

(a) Before vowels—

naká (be soft) *nɔkɔ* (thy mother)
nun̄ka (smell)

(b) Before semi-vowel *w*—

nwapɔ (drink) *iminwe* (fingers)

(c) Homorganically before *t*, *d* and *s*—

int̄:pu (curse) *intan̄fĩ* (the advance portion)
indalawɑ (rust) *nsánsɛkɔ* (let me sprinkle)
inson̄ĩ (shame) *insumbu* (island)

§ 19. THE PREPALATAL NASAL

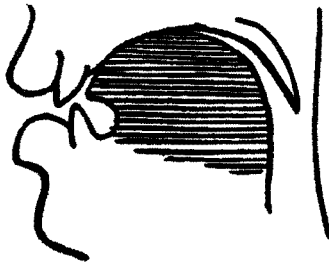
The prepalatal nasal, to indicate which we use the symbol η , while ɲ is used homorganically before the other prepalatal consonants f , t and d , is also used extensively in Bemba directly followed by vowels. It must be carefully distinguished on the one hand from the true palatal nasal, such as occurs in Lamba¹, and on the other hand from the alveolar nasal followed by the palatal glide, nj (as in English *onion*). See, however, footnote to § 44 (*a*) for an example of nj .

Bemba η very closely resembles Zulu η ². An examination of the palatograph and linguagraph shews that the sound is produced by the blade of the tongue coming into contact with that portion of the palate on the border line between the alveolus and hard palate proper. The tongue tip is in a neutral position, but its exact position, provided it is not raised to touch the alveolus, is really immaterial.

The following palatograph will shew a position closely akin to that for t (§ 28), the first element of which corresponds to η , as does t to n .



The following is the approximate tongue-position for Bemba η :—



¹ See Doke, *A Study in Lamba Phonetics*, § 23 (Bantu Studies, Vol. III., No. 1

² See Doke, *The Phonetics of the Zulu Language*, Chapter VI., § 5.

Examples :

(a) Before vowels—

<i>nina</i> (his mother)	<i>liŋgaŋa</i> (make equal)
<i>nu:nsa</i> (stretch)	<i>ɲɔŋga</i> (twist)
<i>ɲcndɛ</i> (let me travel)	

(b) Homorganically before *f*, *tʃ* and *dʒ*—

<i>ɲfaɪ/vwɛ</i> (I didn't know)	<i>ɲu:kɛ</i> (let me prosper)
<i>ɲtʃito</i> (work)	<i>ntʃ:ŋgɛ</i> (let me correct)
<i>ɲdʒa</i> (lechwe)	<i>ɲaɲdʒɛ</i> (maize)
<i>ɲdʒaɲdʒi</i> (railway line)	

§ 20. THE VELAR NASAL

Pronounced as *ŋ* in the Southern English pronunciation of *ringing*, with back of tongue raised to touch the soft palate, as for *k* or *g*. Apart from its use as homorganic nasal before velar consonants, *ŋ* is commonly found in Bemba before vowels and the semi-vowel *w*.

Examples :

(a) Before vowels and semi-vowel —

<i>ɲaŋga</i> (doctor)	<i>ɲɔmɔ</i> (drum)
<i>ɲwenɔ</i> (crocodile)	<i>ɲumbɔ</i> (barren woman)
<i>ɲwɲwintɔ</i> (grumble)	

(b) Homorganically before *k* and *g*—

<i>ɲkuni</i> (firewood)	<i>ɲkokɔ</i> (fowl)
<i>umutɲgɔ</i> (price)	<i>ɲjala</i> (feather)

§ 21. SYLLABIC NASALS

Syllabic nasals cannot properly be classified under the heading of ordinary consonants. They have vowel effect in words. It is not possible, however, to classify them with ordinary vowels, as they cannot be indicated on a vowel chart. In this analysis, therefore, it is convenient to deal with them under the heading of consonants.

In Bemba, syllabic nasals are but rarely used, apart from onomatopœia, and in fact seem confined to the first person subjectival concord when used with monosyllabic verb stems. These syllabic nasals occur only when not initial in a sense-group, and have the vowel resonance of *i*. When, however, the subjectival concord occurs initially in a sense-group, the syllabic nasal gives way to the ordinary nasal consonant preceded by the vowel *i*. Instances have been found of each of the homorganic nasals occurring syllabic. Examples :

(a) When not initial in a sense-group—

<i>m:b̥ɛ</i> (let me become)	<i>ŋ:fwɛ</i> (let me die)
<i>n:djɛ</i> (let me eat)	<i>n:t/ɛ</i> (let me disperse)
<i>n:dʒɛ</i> (let me go)	<i>ŋ:gwɛ</i> (let me fall)

E.g., *nde:fwaja ati n:dʒɛ kumuʃi* (I want to go to the village).

(b) When initial in a sense-group—

<i>i:ndje ʃjakɪʃja</i> (let me eat some food)
<i>ɪŋ:fwɛ:fjɛ</i> (just let me die)

It must be pointed out that syllabic nasals do *not* result from the use of a first person singular concord (subjectival or objectival) with verbs commencing in nasals. The two nasals merely merge, an ordinary nasal being the result. Examples :

<i>leká mi:nɛ</i> (leave me, let me swallow)
<i>ni:ne kumuʃi</i> (let me climb the tree).

Except when such a verb-stem is monosyllabic, e.g. *n:nwɛ* (let me drink).

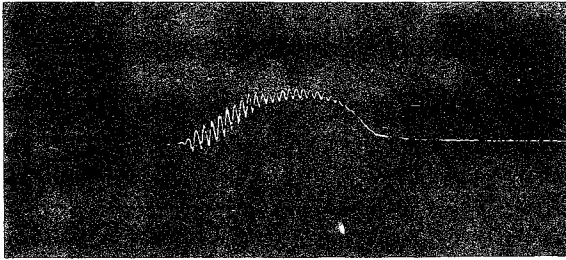
§ 22. THE FRICATIVES IN BEMBA

Bemba shares with Lamba a very limited range of fricatives. There is only one voiced fricative and but three unvoiced. There is no correspondence of unvoiced to voiced forms, these four fricatives representing four different organic positions. Two of the unvoiced fricatives, as will be seen, belong to the same phoneme, hence Bemba fricatives represent but three distinct phonemes.

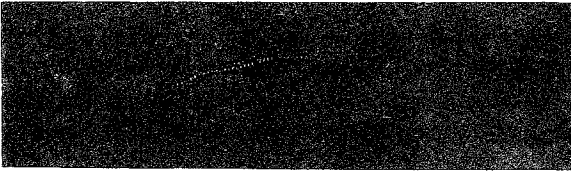
§ 23. THE BILABIAL FRICATIVE

In Bemba orthography, though this is written *b*, it has been recognised by many that the sound is not an explosive.¹ It is a sound common to most of the Central Bantu languages, and sometimes called "bilabial *v*" or "fricative *b*." In its formation there is not complete contact and closure of the lips, but they are brought close enough together to cause vibration as the voiced sound passes through. The sound has been variously misheard and mis-recorded by Europeans as *b* or *v* or *w*. From the following kymograph tracings it will be noticed that the sound is remarkably vibrant, especially when initial.

¹ Owing to lack of phonetic type, italic *v* (*v*) is used in this paper.

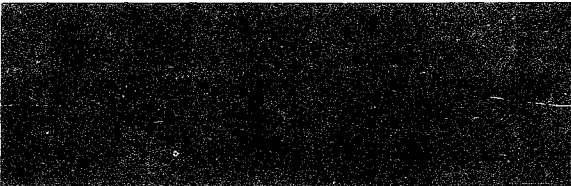


va



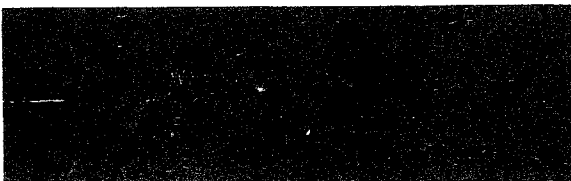
vu

In Lamba, when *v* is followed by the semi-vowel *w*, it is usual for complete contact to be effected and the fricative to give place to the explosive sound *b*; in Bemba, though this does not take place, a tendency towards it is noticed in the following tracing, which is representative of a number recorded :—



vva

This tendency is even more marked in the case of the bilabial fricative followed by the semi-vowel *j* :—



vja

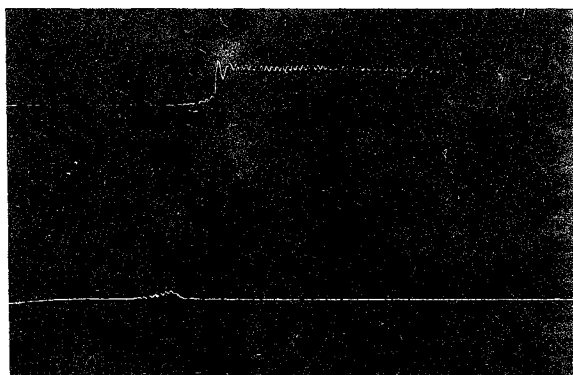
Any such tendency, however, is entirely obliterated when the sound becomes medial instead of initial, as the following record shews :—



t w a v j a p a

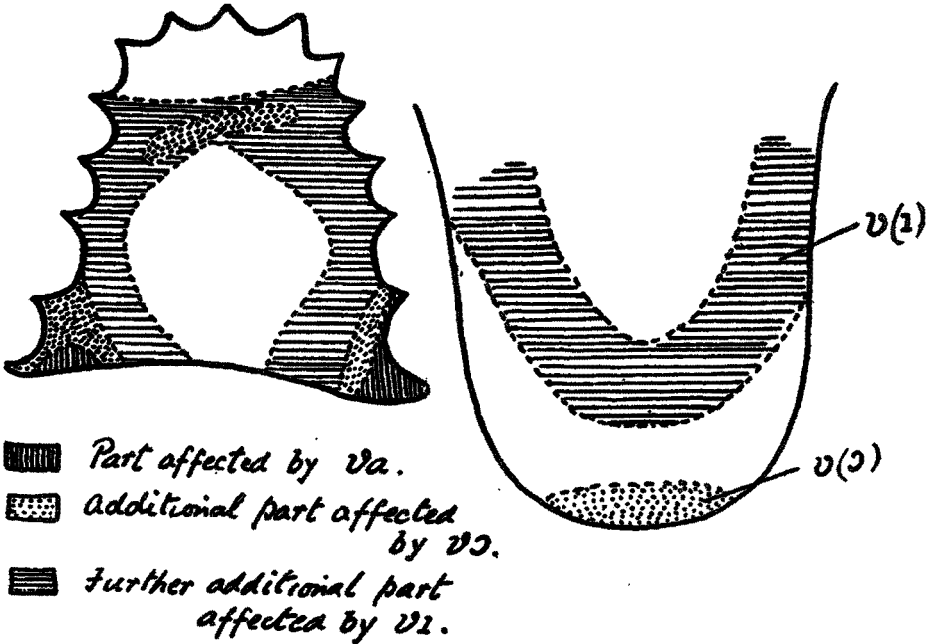
We noticed that Christopher was rather liable at times to copy the English *b* pronunciation, when first making deliberate sounds : he did not do this when speaking normally, and we felt that the explosive pronunciation of *v*, even when initial before *j*, is not a feature of true Bemba. The testing of more individuals, however, is necessary to clear up this point.

In Bemba, when *v* is influenced by the homorganic nasal *m*, it undergoes change, and becomes the bilabial voiced explosive *b*.



(Simultaneous mouth- and nose-tracing of Bemba *mba*.)

The following palatograph experiments upon Christopher afford some interesting points for consideration which can only be cleared up by similar experiments upon other natives. With Christopher, the tongue took up definite positions with regard to the palate, positions which naturally varied with the vowel used. While we consider that these tongue-positions are non-significant as regards the correct pronunciation of *v*, the fact of their existence cannot be overlooked:—



In the pronunciation of *vɔ*, the tip of the tongue was raised to touch that portion of the palate between the alveolus and hard palate proper, while with the pronunciation of *vi*, the tongue took up a true pre-palatal position, making definite contact during enunciation. No acoustic effect of this was, however, noticed. With *ve* only the tongue-position for *ɛ* was noticed.

Similar phenomena were noticed with the semi-vowel *w* (see § 29).
 Examples of *v* :

(a) Before vowels—

<i>ukwɔmbɔ</i> (to be wet)	<i>vutukɔ</i> (run)
<i>avantu vesu vɔ:nɛ</i> (all our people)	
<i>vilɔ</i> (boil)	<i>ukwɔvɔ</i> (to smart, itch)

(b) Before semi-vowels *w* and *j*—

<i>vjatɔ</i> (flash)	<i>alɛ.vjɔ:lɔ</i> (he is belching)
<i>vjalululɔ</i> (re-sow)	<i>vɛlɛlɔ</i> (go back)
<i>uvvi:tɔ</i> (confluence)	

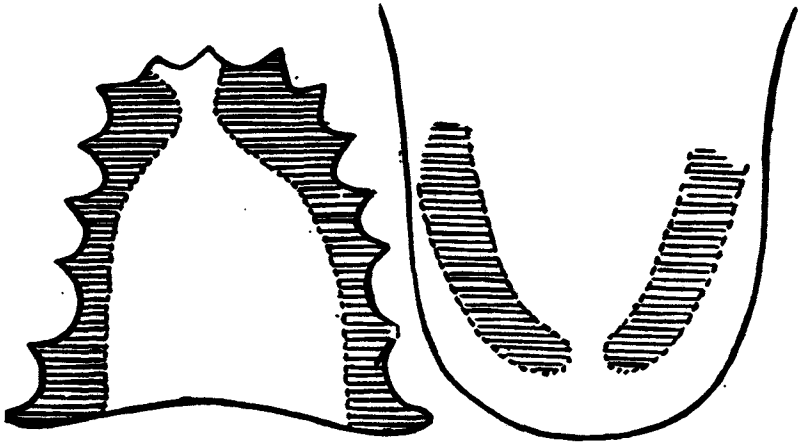
§ 24. THE DENTI-LABIAL FRICATIVE

Pronounced as in English with upper front teeth against lower lip. Bemba employs only the unvoiced form, *f*, and this is not found before

the vowels *a* or *e*, and only in one case before the vowel *ɛ*, viz., *fɛnɛnkè:/q* (pinch); even this word has an alternative pronunciation in *fjɛnɛnkè:/q*. Before all other vowels and the two semi-vowels *f* is used extensively. It has already been observed (§ 17) that *ɱ* is the homorganic nasal used with *f*. Examples :

- f*. *ɪf:ntɪ* (things), *fɔ:pa* (suck fruit), *fula* (be abundant)
fw. *fwajq* (seek), *fwi:kq* (clothe), *fwɛnda* (scratch)
fj. *itɪfju:fjɪ* (a joint), *fjo:nq* (blow nose), *fje:nta* (tie tightly)
ɱf. *ɱfɪmɪ* (chief) *ɱfwɪ* (grey hair)

§ 25. THE ALVEOLAR FRICATIVE



In Bemba only the unvoiced variety is used, and this (*s*) belongs to the same phoneme as the unvoiced pre-palatal fricative *f*. In Bemba *s* is never followed by the vowel *i* or the semi-vowel *j*; when, morphologically, an *i* should follow *s* the latter gives place to *f*. Examples of *s* :

(a) Followed by vowels—

sɔsq (speak)

suvwq (to be still)

umusevɔ (hoed path)

(b) Followed by the semi-vowel *w*—

ukuswa/q (to rustle)

swimɪnɪ/q (look fixedly)

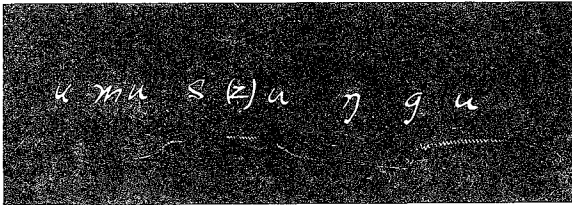
swɛŋq (sound, of reedduck)

Normally *s*, in Bemba, is completely devoid of voicing, as the tracing of *senqɔ*, given below, shews. However, when medial and followed by the vowel *u*, it has been noticed that *s* becomes voiced before its

completion, e.g., *umuszuŋga* (porridge). This was especially noticeable in the word *umuszu:ŋgu* (European), an imported word derived from the Nyanja *mzuŋgu*, where the use of *z* may have had an influence on Bemba.



s ɛ ŋ g a



L.T.

M.T.

(Simultaneous larynx and mouth-tracing.)

§ 26. THE PRE-PALATAL FRICATIVE

Bemba / has tongue-position as for English /, but in enunciation the tongue invariably passes through a *j*-glide position. / belongs to the same phoneme as *s*. With /, as with *t*/ and *ndʒ*, it is unnecessary to use the prepalatal semi-vowel *j* in writing unless the same symbol as for *s* were being used, when the *j*-glide would have to be inserted before vowels other than *i*. For palatograph illustrating /, see that for *t*/ in § 28. Examples :

- | | | |
|----|-------------------------------|-------------------------|
| / | <i>ʃamɑ</i> (be unlucky) | <i>ʃu:kɑ</i> (be lucky) |
| | <i>ʃe:ta</i> (chew) | <i>ʃo:kɑ</i> (be bent) |
| | <i>ʃunda</i> (hover) | |
| ɲ/ | <i>ukwe:ɲʃɑ</i> (drive along) | |

Examples of grammatical change from *s* to / in the formation of perfect stems :

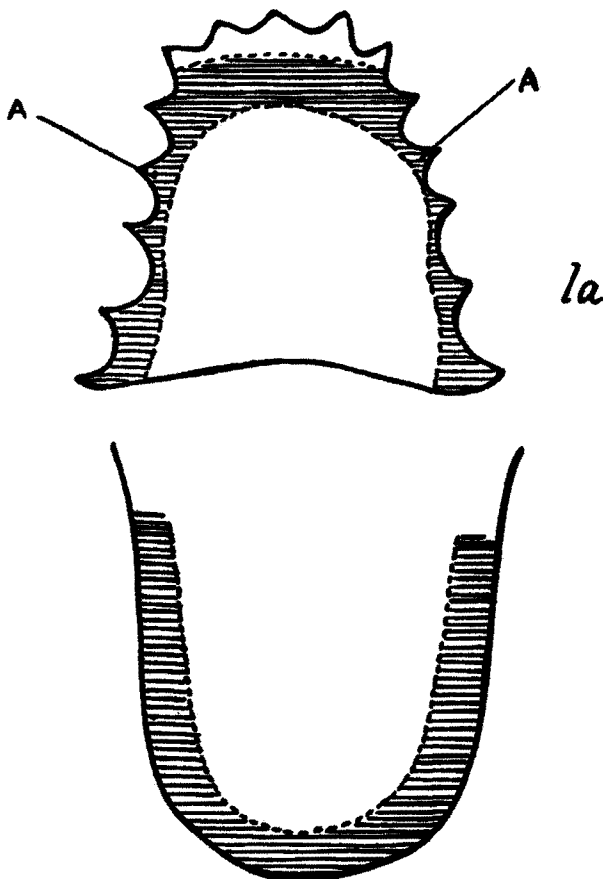
- | | | | | | |
|-------------|---|----------------|-------------|---|---------------|
| <i>isɑ</i> | — | <i>-i/iʃe</i> | <i>pusɑ</i> | — | <i>pu/iʃe</i> |
| <i>pusɑ</i> | — | <i>-pa/iʃe</i> | | | |

But notice, when the following vowel would be *ɛ*, there is no change. e.g. :

- | | | | | | |
|-------------|---|----------------|-------------|---|----------------|
| <i>posɑ</i> | — | <i>-poseʃɛ</i> | <i>pesɑ</i> | — | <i>-peseʃɛ</i> |
|-------------|---|----------------|-------------|---|----------------|

§ 27. THE LATERALS

There are two voiced lateral sounds found in Bemba, one of which is the true *l*, differing in no significant way from the "clear *l*" of Southern English. The following palatograph and linguagraph illustrate this :—

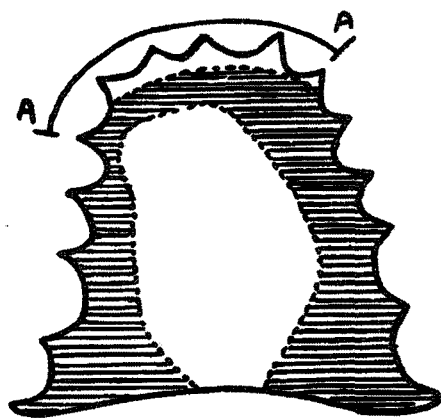


AA. Points of intensity of lateral escape.

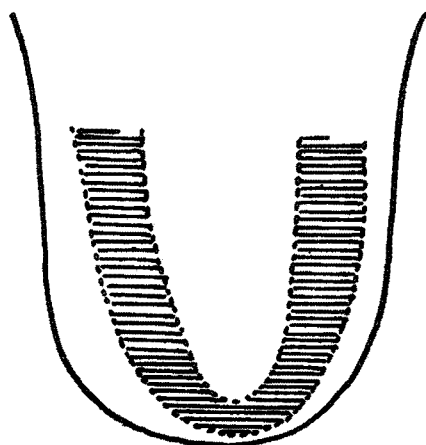
This lateral is a true alveolar sound formed with the tongue-tip against the alveolus, and in the case of Christopher the enunciation was bilateral, the points of escape being well forward.

The second sound is not a continuant, but is enunciated with a single flap of the tongue. Contact positions are much as for *l*, but naturally there is more tension and greater contact around the sides.

This sound closely resembles the "flapped lateral" in Lamba,¹ and we use the symbol *ʌ* to indicate it. In its production the sides of the tongue are raised to touch the palate all along the upper side teeth. The forward part of the tongue blade (not tip) flaps against the alveolus, almost up to the upper front teeth, while the air escapes over the front and slightly forward laterally. With the one native examined there was a tendency to operate towards the right side of the mouth rather than the left. The following palatograph and linguagraph shew the position.



A-A Region of Air-escape

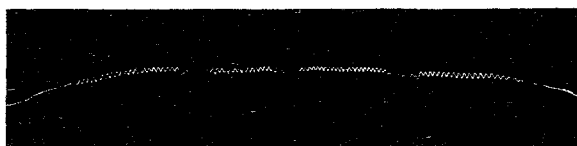


¹ For a description of that, see Doke, *A Study in Lamba Phonetics*, § 31 (*Bantu Studies*, Vol. III., No. 1).

That the difference between *l* and *ʃ* is to a great extent one of degree in release of the tongue-tip is shewn well in the following kymograph tracings:—



pʰ e: m b ε l ε l a



i: ʃ i ʃ i: ʃ a

The flap with which the tongue is released in the case of *ʃ* amounts almost to an explosion, as is exemplified in the following:—



va ʃ i f w a i ʃ e

Examples of *l* and *ʃ*:

<i>ʃiviʃi</i> (again)	<i>ʃonda</i> (follow)
<i>wmwaitʃe aleʃiʃa</i> (the child is crying)	
<i>ʃuʃuma</i> (thunder)	<i>ukulwala</i> (be ill)
<i>iʃjafi</i> (chat)	<i>ifiʃjɔ</i> (food)
<i>ulwimbɔ</i> (song)	<i>ulwapula</i> (R. Luapula)

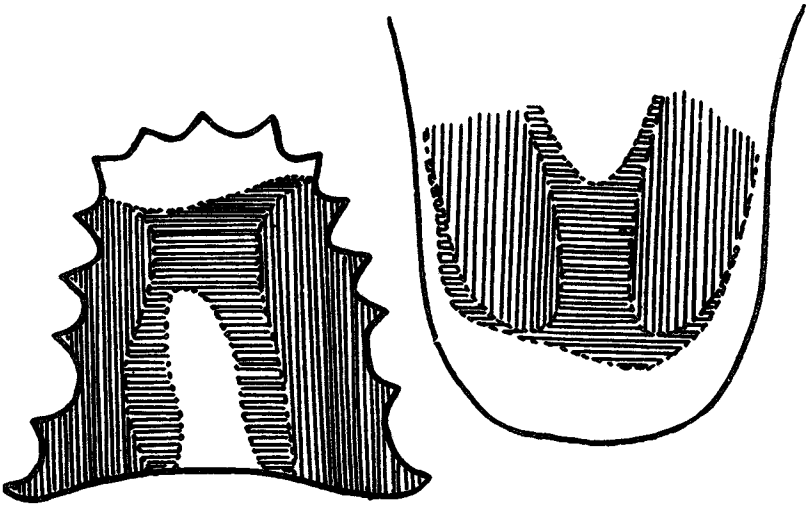
It is noteworthy that in Bemba *l* is always used before the semi-vowel *w*, and *ʃ* always before the semi-vowel *j*. It has not been possible to formulate any definite rules, apart from the above observation, for the occurrence of *l* and *ʃ*; and in all probability one speaker differs from another in his usage of these sounds. It is certain that *l* and *ʃ* belong to the same phoneme.

§ 28. THE AFFRICATES

There are only two affricates in Bemba, the unvoiced and the voiced pre-palatals. These sounds closely resemble those used in Zulu,

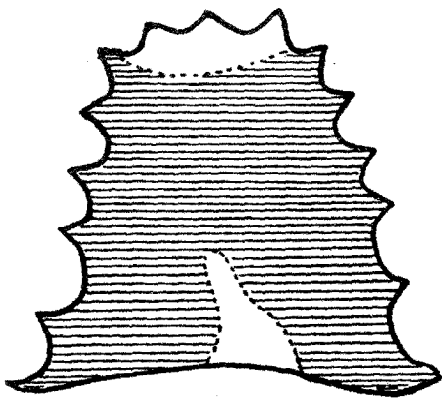
except that in the case of the unvoiced form the Zulu sound is accompanied by ejection, whereas the Bemba sound is radical, and that the Zulu sounds are not palatalized. A sound very much like the Bemba one was observed among certain speakers in Tonga, of the Middle Zambesi. In formation, these sounds are very much like those in the English words *church* and *judge*, with the exception that the Bemba sounds are *always* accompanied by a marked palatal glide, and the English are almost tongue-rim affricates.

The following palatograph and linguograph shew the tongue-positions for / and *t/*. It is the forward part of the blade of the tongue (not the tip), which is raised to touch the border line of alveolus and hard palate. The first element, then, is not *t*, but to represent this the symbol *ṭ* is used. The second element is /, which has already been described in § 26.

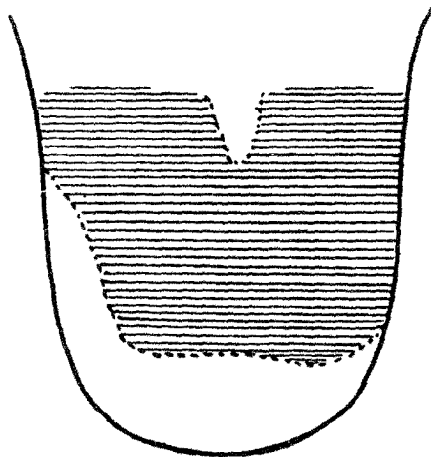


-  Space of contact for [a].
-  Additional space of contact for *ṭ*(a).

The voiced form, which is also palatalized, is never used apart from the homorganic nasal *n*. For the first element of the affricate we use the symbol *d*.



ndz(a)



The following kymograph tracings shew clearly the nature of these prepalatals, and the affrication of *t/* and *dʒ*:—



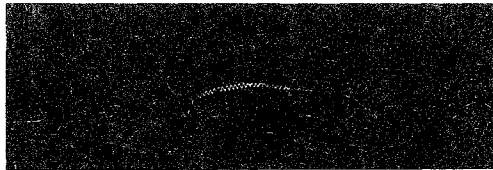
l a f a



i *u* *n* *i*



v *w* *a* *i* *a*



i *ndʒ* *a*

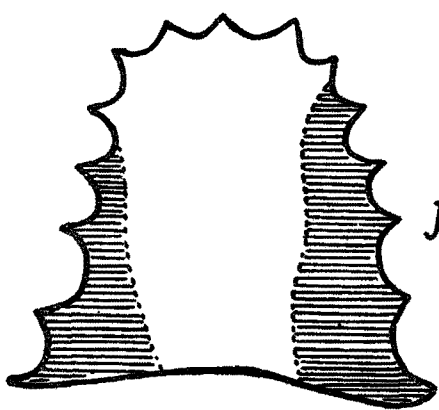
Examples :

- | | |
|--|------------------------------|
| <i>ij</i> <i>tʃampɔŋfjɔ</i> (it troubles me) | <i>it/i:vɪ</i> (door) |
| <i>tʃe:pɔ</i> (be insufficient) | <i>it/ɔ:ɔp</i> (duck) |
| <i>itʃu:nɪ</i> (bird) | |
| <i>ni/</i> <i>niʃinɔ</i> (pinch me) | <i>ɪnt/iŋgɔ</i> (bicycle) |
| <i>ndʒ</i> <i>ɪndʒu:kɔ</i> (playing cards) | <i>ɪndʒi:to</i> (confluence) |

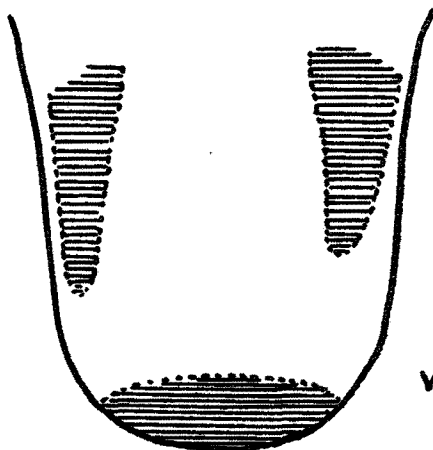
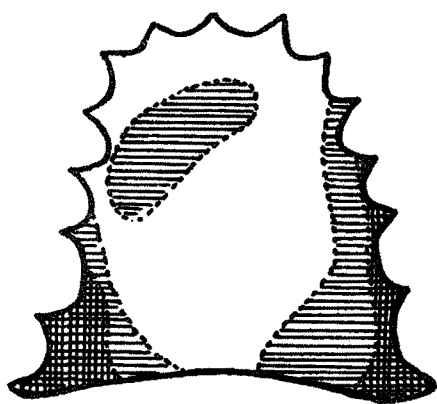
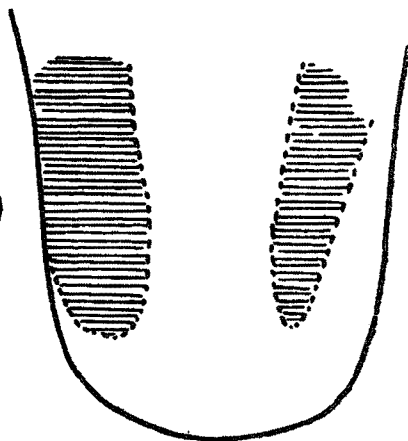
§ 29. THE SEMI-VOWELS

The semi-vowels in Bemba, except when used initially in a syllable, are practically the starting-points of two sets of falling diphthongs. The tongue position of *j* is pre-palatal, assimilated to a certain extent, to the positions used for the sounds dealt with in the last paragraph.

The tongue-position of *w* is velar, though, owing to the lip modification, this semi-vowel might be classified as bilabial. It is better in Bemba, however, to speak of *w* as velar, since the homorganic nasal which operates with it is *ŋ*.



j(a)



 w1
 wa

w1

From the palatograph above it is seen that with the velar semi-vowel, the tongue adjusts its position to suit the accompanying vowel. Christopher had a tendency to touch the palate with the tongue-tip *before* pronouncing the semi-vowel. This, however, we consider accidental, and that it had nothing to do with the pronunciation of the semi-vowel itself. A similar action was noticed in connection with *v* (see § 23).

Examples of *j* :

jama (my maternal uncle) *ukujamba* (to be smart)
jojomba (mourn)

Examples of *w* :

w:la (fizz) *ukuwa:ma* (to be good)
wowota or *woota* (make a noise)
wawwa (husbands)

§ 30. DURETICS

Duretics, the study of syllable length, is very important in Bemba. It is common in Bantu languages to find that length and stress go together, normally upon the penultimate syllable of each word. In Central Bantu, however, this is not so. While the main stress in each word is normally upon the penultimate syllable, that syllable is in some cases long and in other cases short, and this difference in length is very often semantically significant; that is, a change of syllable length very often indicates a complete change of meaning. Apart from prolonged length, found in onomatopœia and in emotional speech, which we do not include under the heading of Normal Grammatical Phonetics, there are two lengths in Bemba, which must be carefully distinguished. These are seen in the short syllable and the long syllable. In phonetic script the short syllable remains unindicated, while the long syllable is marked by the colon (:) following the vowel (or syllabic nasal) concerned.

§ 31. EXAMPLES OF SEMANTIC LENGTH

In Bemba, length distinguishes many pairs of words phonetically alike but differing in meaning. Usually a change of tone accompanies the change of length. Words in which this double distinction is shown are dealt with in § 38.

lɛla (nurse) *lɛ:la* (wither)
ɪfɪtɪtɪ (navel) *ɪfɪtɪ:tɪ* (beer)
ukufɪ/ɪ (to cause to arrive) *ukufɪ:fɪ* (to blacken)

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<i>se:ʔa</i> (move aside)	<i>se:ʔa</i> (swing)
<i>ʃakʌ</i> (make fire)	<i>ʃi:kʌ</i> (bury)
<i>lalʌ</i> (crack)	<i>la:lʌ</i> (lie down)
<i>ʔi:ʔa</i> (cry)	<i>ʔi:ʔa</i> (feed well)
<i>papa</i> (be astonished)	<i>pa:pa</i> (carry on the back)
<i>polʌ</i> (heal up)	<i>po:lʌ</i> (hit with stones)
<i>pulʌ</i> (beg)	<i>pu:lʌ</i> (steal grain, of birds)
<i>vakʌ</i> (take care of)	<i>va:kʌ</i> (bear a grudge)
<i>tʃi:kʌ</i> (a cook)	<i>tʃi:kʌ</i> (it is a large beer-pot)
<i>tʃuʌ</i> (do)	<i>tʃi:tʌ</i> (it is an offering)
<i>ʉʃikʌpe</i> (photograph)	<i>ʉʃikʌ:pe</i> (scapula)
<i>mɔnʌ</i> (look)	<i>mɔ:nʌ</i> (it is the nose)
<i>vukʌ</i> (divine)	<i>vu:kʌ</i> (eat greedily)
<i>vulʌ</i> (lack)	<i>vu:lʌ</i> (take up)

§ 32. DYNAMICS

In Bemba, dynamics, the study of stress, plays the usual Bantu part, a part more rigidly exact among the Central Bantu languages than, for instance, among the Northern Bantu. The main stress falls normally upon the penultimate syllable of each word, and as will be seen in § 42, this has an important bearing upon the correct method of word-division in Bemba writing.

It is natural that the rule of penultimate stress cannot hold in the case of monosyllabic words, of which not a few occur in Bemba. When a word is increased in number of syllables by the addition of suffixes, the stress normally moves forward so as to remain upon the penultimate syllable in each case. Abnormal stress occurs in the extra-normal phonetics of the onomatopœic radical and the interjection, but we are not concerned with that here. Main stress is marked by the accent (').

§ 33. EXAMPLES OF NORMAL PENULTIMATE STRESS.

lélo [amutámʃa] ʃó:nʂe — ɪŋúnɪ nè:námʌ — — kaváhwé áʔi námákʌ — kavíʔi áʃúma múŋándʌ — nómʌ ʔi:nʂe —

Secondary slighter stresses occur usually on every alternate syllable back from the syllable bearing the main stress; secondary stress is marked by the accent (').

ámatántónkánʌ (thoughts) *íʃíndʒeʔéŋgwʂ* (wonders)
vá:kuláveʔéŋgwʂ (they will be reading)

§ 34. EXAMPLES OF MONOSYLLABIC STRESS.

ljá wemwátʃe (eat youngster) *ʃjákʌ/ʃíkʌ tʃé:* (they are very red)
 Monosyllabic words, except in imperative and radical descriptives,

are practically non-existent in Bemba. A few words have irregular stress, such as the ante-penultimate stress shown on *wemwátsjɛ* above (see also the next paragraph).

§ 35. MISCELLANEOUS NOTES ON STRESS IN BEMBA

The enclitics *-po*, *-ko*, *-mo* and *-fjɛ* added to words become part of such words but do not draw the main stress forward, when the original stressed syllable is long, e.g. :

vi:ka — *vi:kapp* *ví:ká* — *vi:káfjɛ*
ì:ngulé:ní — *ì:ngulé:nnmq* *fumé:ní* — *fumé:nskq*

But when the stressed syllable is short, these enclitics draw forward the stress, e.g.:

fúmá — *fumákq* *úmá* — *ímófjɛ*
 púá — *púáfjɛ*

Except in abnormal cases, it is unnecessary to mark stress at all in Bemba, so long as the rule is observed that main stress falls upon the penultimate syllable unless the word is monosyllabic.

§ 36. TONE

Bemba, like Lamba, must be classed as a "Tone Language" though tone does not play so important a part in these Central Bantu languages as it does, for instance, in Kongo or Zulu. Nevertheless, tone is significant in many cases in Bemba; that is to say, the variation of the musical pitch on syllables often means an entire change in the meaning of the words.

This brief investigation into tone is by no means sufficient for conclusive deduction; still, we have been able to arrive at certain tentative conclusions which should be of assistance to the student of Bemba. In normal grammatical speech, Christopher used three level tones, a high tone (indicated by the diacritic ¹ above the vowel), a mid-tone (unindicated), and a low tone (indicated by the diacritic ¹ beneath the vowel). In addition to these tones, we observed a falling tone used when two mid-tones were followed by a low tone. This we have considered unnecessary to mark, so that the succession "mid, mid, low" will often really indicate "mid, falling, low." This, however, is not always the case, but we do not consider its existence as sufficiently significant to necessitate special recording.

¹ This has been already noticed by W. Lammond in his *Lessons in Bemba* (2nd edition), and numerous cases of semantic tone have been recorded by him in his *Bemba Vocabulary*, published in 1926.

In extra-normal phonetics, and in interjection, as is quite natural, a more varied series of tones is employed. These we are not recording in the present analysis.

§ 37

Tone is used in Bemba, semantically, as the only differentiating factor between many words phonetically and duretically alike, but bearing different meanings. Examples :

<i>impangqa</i> (sheep) }	<i>sovola</i> (peck) }
<i>impangqa</i> (veld) }	<i>sovola</i> (choose) }
<i>impangqa</i> (swords) }	
<i>umutεngq</i> (forest) }	<i>sokola</i> (extract tooth) }
<i>umutεngq</i> (price) }	<i>sokola</i> (beat for game) }
<i>ukuwamba</i> (to be wet) }	<i>tuka</i> (dig up earth, mole) }
<i>ukuwamba</i> (to work) }	<i>tuka</i> (revile) }
<i>ukuvɪpa</i> (to boil, to sew) }	<i>vongqa</i> (bellow) }
<i>ukuvɪpa</i> (to announce) }	<i>vongqa</i> (be overripe) }
<i>ukuwe:ja</i> (shoulder) }	<i>tumpika</i> (dip) }
<i>ukuwe:ja</i> (to shave) }	<i>tumpika</i> (make foolish) }
<i>ukwisula</i> (to be full) }	<i>uwamba</i> (fish-weir) }
<i>ukwisula</i> (to open) }	<i>uwamba</i> (nakedness) }
<i>tʃitʃɪlɔ</i> (shrew woman) }	<i>umupungqa</i> (rice) }
<i>tʃitʃɪlɔ</i> (it is fowl's dung) }	<i>umupungqa</i> (fly-switch) }
<i>tʃɔ:nɑ</i> (1, cat; 2, go right away) }	<i>ukufinda</i> (to refuse to answer) }
<i>tʃɔ:nɑ</i> (it is a snout) }	<i>ukufinda</i> (to overpower) }
<i>akavundu</i> (jigger flea) }	<i>tʃu:pa</i> (frog) }
<i>akavundu</i> (quail) }	<i>tʃu:pa</i> (suffer) }
<i>tʃiʃika</i> (stop the hole) }	<i>fi:mba</i> (thatch) }
<i>tʃiʃika</i> (out with it !) }	<i>fi:mba</i> (swell) }
<i>ukutɛna</i> (to play) }	<i>ukufu:nda</i> (to skin) }
<i>ukutɛna</i> (to hurt) }	<i>ukufu:nda</i> (to command) }
<i>ukufukula</i> (to scratch up earth) }	<i>fungila</i> (tie up) }
<i>ukufukula</i> (to turn inside out) }	<i>fungila</i> (bespeak) }

§ 38

Much more commonly found, however, are words phonetically alike, but differentiated by changes both of length and tone. Examples :

<i>ukufuka</i> (to fold) }	<i>ukufula</i> (to be abundant) }
<i>ukufu:ka</i> (to rise, of smoke) }	<i>ukufula</i> (to forge iron) }
<i>ukufu:ka</i> (to be gentle) }	<i>ukufu:la</i> (to undress) }

<i>it/iv̄i</i> (much) }	<i>it/ipa</i> (eyelid) }
<i>it/i:v̄i</i> (door) }	<i>it/i:p̄a</i> (of divining) }
<i>ukukul̄a</i> (to pull) }	<i>t/iv̄ula</i> (gulp down) }
<i>ukukul̄a</i> (to grow) }	<i>t/iv̄u:l̄a</i> (it is a branch) }
<i>ukuku:l̄a</i> (to build) }	<i>t/it̄pi</i> (it is a honey insect) }
<i>ukukuy:l̄a</i> (to draw teeth) }	<i>t/i:p̄i</i> (short) }
<i>it/i:ta</i> (offering) }	<i>t/i:ta</i> (it is an offering) }
<i>it/ita</i> (soldier) }	<i>t/i:ta</i> (do) }
	<i>t/i:ta</i> (it is a soldier) }
<i>kol̄a</i> (1, make drunk ; 2, come upon, of famine) }	
<i>ko:l̄a</i> (cough) }	
<i>ko:l̄a</i> (scrape together) }	
<i>it/ikuk̄u</i> (box) }	<i>pe:l̄a</i> (grind) }
<i>it/iku:k̄u</i> (grace) }	<i>pe:l̄a</i> (come to an end) }
	<i>pe:l̄a</i> (give) }
	<i>pe:l̄a</i> (swing) }

§ 39

Care must be taken also to watch for any slight change in phone, as well as tone and length. Notice the following cases :—

<i>pe:p̄a</i> (pray) }	<i>ukwe:ŋga</i> (to render down fat) }
<i>pe:p̄a</i> (smoke) }	<i>ukukwe:ŋga</i> (to cut with knife) }
<i>sek̄a</i> (laugh) }	<i>sek̄e/ŋa</i> (cause to laugh) }
<i>se:k̄a</i> (be many) }	<i>sé:ke:/ŋa</i> (put out to another's care) }

§ 40

Apart from the Semantic tone, already dealt with, tone, as an emotional factor, is employed in Bemba to signify interrogation. Example :

<i>áfwa</i> (is he dead ?) }	<i>váleja</i> (are they going ?) }
<i>afwā</i> (he is dead) }	<i>valejā</i> (they are going) }
<i>tène</i> or <i>tené</i> (is it not I ?) }	
<i>tenē</i> or <i>telnē</i> (it is not I) }	

§ 41

As a grammatical factor also tone has its part in Bemba. Example :

<i>aléfwa:ja l̄e:l̄o</i> (he wants to-day)
<i>aléfwa:ja kal̄e</i> (he wanted long ago)

§ 42 WORD-DIVISION

In Bemba every syllable, and hence every word, ends in a vowel.¹ Syllabic division, therefore, is extremely straightforward. Correct

¹ Except in the few cases of the syllabic nasals, see § 21.

word-division, however, is not so easily determined. Hitherto, many Bantu languages have been written in what is called the "disjunctive method," and the protagonists of disjunctivism base their arguments not on how the words are pronounced, nor even on the special genius of Bantu grammar, but upon analogies from European and classical grammatical systems. Anyone who has seriously studied Comparative Bantu philology cannot but be struck by the fact that Bantu has a special "genius" in grammatical classification. It has "parts of speech" unknown as such in European languages, and it lacks "parts of speech" and grammatical forms well known to Europe.

In every Bantu language *there is a true word-division*, dependent upon phonetic considerations. Natives speak out their sentences in words; and it has been found that in Bemba word-division is dependent upon the same law as obtains in Zulu,¹ viz., *in each word or word-group there is one and only one main stress*. Every Bemba word, then, contains a main stress, and no single Bemba word contains more than one main stress. As we have already observed (§§ 32 and 35), the main stress in Bemba normally falls upon the penultimate syllable, but if the word is monosyllabic, that single syllable is necessarily stressed.

An examination of Bemba to determine the true spoken words will reveal the following facts:—

(1) That the noun prefix and noun stem contribute to form a single word (example, *umuntŷ, avantŷ*), and that the same thing applies in the following cases:—

- (a) Adjectival concord and adjectival root, e.g. *ũmukalamba, dvavŷ*.
- (b) Relative concord and relative stem or verb-form, e.g., *uwafŷ:ta, avavumba*.
- (c) Possessive concord and possessive stem or substantival form succeeding it, e.g., *wandŷ, vdmfu:mu*.
- (d) Verbal concord and verb stem, including all true verbal auxiliaries (and excluding auxiliary verbs), e.g., *wafwa:ja, ulŷfwa:ja, vakamfwa:ja, twasuka twafŷka, isa ŷngafwŷkŷ*, but with elision and coalescence *sŷngafwŷkŷ*.

¹ See Doke, *The Phonetics of the Zulu Language*, p. 188 et seq.

- (e) Locative prefixes and the substantival forms used with them, the resultant *words* being either adverbs or nouns, e.g., *kumuntŭ, pavantŭ, kuŭine, kũntundŭ*.
- (f) The “conjunctive formative” (variously appearing as *na-*, *ne-* or *no-*) and the substantive, adverb or conjunction following, e.g., *nefwɛ, ndvantŭ, ndmuntŭ, nemfumŭ, nakdviŭi, napdkuti*.

(2) That these single words, from the Bantu point of view, constitute the real “parts of speech,” and that the formative elements in their make-up should not be considered as such. Hence in Bantu we find no prepositions (these are adverbial or nominal formatives), and no cases (the locative is usually an adverb, the genitive constitutes a fresh “part of speech”—the possessive—the vocative is always an interjection).

(3) That words, through coalescence or elision of vowels,¹ may become fused to form word-groups, each part of which is easily distinguishable, and under certain circumstances (in slow speech) may maintain its separate identity as a word, e.g., *namona umuntŭ namonó:muntŭ*.

(4) That no word may be broken into its component parts of prefix, stem or suffix and still retain “life”; such breaking of words can only serve the purpose of cold grammatical analysis for classification purposes, but the resultant “formatives” are not “words.” If such breaking up of words is employed in writing, the effect is the same as if each *syllable* of each word were written separately and taken to represent a word, i.e., *no muntŭ* is as irrational as *no mu ntŭ*.

§ 43. SUGGESTIONS REGARDING ORTHOGRAPHY

As a result of the somewhat detailed analysis of Bemba pronunciation, set out in the preceding paragraphs, we now offer the following suggestions for an improvement of the present orthography, realising that it is not too late to effect alterations which will simplify understanding and preserve more accurately the real nature of Bemba speech:—

1. The employment of the conjunctive method of writing, dividing words according as they are naturally divided in speech.

2. The separation of word-groups into their component words in writing, leaving it to the quick reader to carry out elisions or coalescences automatically.

¹ We have not dealt with the Bemba rules for coalescence and elision of vowels, as they belong more strictly to the realms of grammar.

3. The retention of the present five symbols for the vowels, not differentiating *e* from *ɛ*, or *o* from *ɔ*; but the introduction of length marking, as change of length is often significant. Length should be marked either by doubling the vowel (*aa*) or by the phonetic "colon" succeeding the vowel (*a:*) in all cases, whether differentiating meanings or not.

4. The employment of *ŋ* (in preference to *ɲ*) to represent the velar nasal, and its use as velar homorganic nasal before *k* and *g* (cf. use of *ŋk* and *ŋg* in Lamba New Testament).

5. The recognition of the bilabial voiced fricative (*v*) and the employment for it either of *b* (on the strict understanding that it is not explosive except after *m*, as *mb*), or of the phonetic symbol *v*. Perhaps the retention of symbol *b* is preferable.

6. The recognition of the flapped nature of the lateral under certain conditions. As *l* and *ɮ* belong to the same phoneme the symbol *l* is sufficient to represent all occurrences hitherto recorded as *l*, *r* or *d*, except when the homorganic nasal *n* precedes *d*, in which case *nd* should be written. Should a more exact orthography be required, the symbol *ɮ* or even *r* (with a proviso as to pronunciation) could be employed for cases of the flapped lateral.

7. The definite employment of *f* for the present *sh* and *shy*, and the employment of *tʃ* for the present *ch* and *chy*.

Since *s* and *f* belong to the same phoneme, *s* before *i* and *sy* before other vowels could represent *f* (as is done in Lamba); but this is a less preferable suggestion to the one above, owing to the necessary introduction of *y* before vowels other than *i*. It would also do away with the connection between *f* and *tʃ*.

8. The use of *ɲ* for the hitherto-used *ny* and always as the homorganic nasal before *f*, *tʃ* and *j*.

9. The use of capitals is considered unnecessary, as capitals are never used in "speech."

10. The marking of tone in record, translational and scientific work.

§ 44. PHONETIC TEXT

(a) Close Phonetic Script.—*váfulwe váambene vutʃivusa navákolwe*—
— *kwóle áe:va fulwe áti ákesé:ʃjo:vwaʃi kumwandi maiʃo*— — *fulwe áimá:ja kwákolwe* — *áwe vanaja no:vwaʃi kuʃivamukákolwɛ* — —

vavu:la fulwe vamute:ka pátšipuna — — *valé:ta no:vwaŋi* — — *fulwe alati* — *nsunjo:vwaŋi*¹ — *áponena papši* — — *vámuto:la vámut:kapp* — — *kaviŋi áti* — *nsunę* — — *kaviŋi áponę* — — *áwo:vwaŋi vapwa kulikolwe* — — *fulwe ena insala jákaŋipa* — — *e:ŋjo ae:va kolwe áti* — *naine ukese kumwandi maiŋo* — — *awa:imá:ja kumwakwe* — *áŋŋa no:mupja kwi:fwe* — — *vwaŋsatŋa kolwe aimá:ja kwáfulwe* — — *ŋiŋja:javukó:mumana* — *asanyó-mupja* — *apítamo apanta mumi:ŋę* — — *awa:fika kwáfulwe* — —

(b) Suggested Orthography (without marking tone)—*vafulwe vaambene vutšivusa navakolwe. kolwe ae:va fulwe ati ukese:lya uvwali kumwandi mailo. fulwe aima aya kwakolwe, awe vanaya no:vwali kulivamukakolwe. vavu:la fulwe vamute:ka patšipuna. vale:ta no:vwali. fulwe alati, nsune uvwali, aponena papši. vamuto:la vamuvi:kapo. kavili áti, nsune. kavili apona. awe uvwali vapwa kilikolwe. fulwe ena insala yakalipa. elyo ae:va kolwe ati, naine ukese kumwandi mailo. awe aima aya kumwakwe, aotŋa no:mupya kwi:fwe. vwaŋsatŋa kolwe aima aya kwafulwe. ŋiŋya ayavuka umumana, asanyá umupya, apítamo apanta mumi:le, awe afika kwafulwe.*

(c) Translation.—The tortoise made friends with the monkey. The monkey said to the tortoise, You must come and eat porridge at my place to-morrow. The tortoise set out and went to the monkey's place, and the monkey's wife cooked porridge. They took up the tortoise and set him on a stool. They brought the porridge. The tortoise made as if to take some porridge, and down he fell. They picked him up and set him on again. Again he tried to take. Again he fell. At length the porridge was finished by the monkey. As for the tortoise, hunger was fierce. Thereupon he said to the monkey, I also, you must come to my place to-morrow. So he set out and went to his place and burnt a patch of grass at the watering place. The next morning the monkey set out and went to the tortoise's place. When he crossed the river, he came upon the burnt patch, he passed through and trod on the burnt stubble, and in that way reached the tortoise's place.

¹ The use of *njo* contracted from *ne+u* deserves further investigation. The distinction between *na* and *nja* in Bwene-mukuni has been noticed by Father J. Torrend.